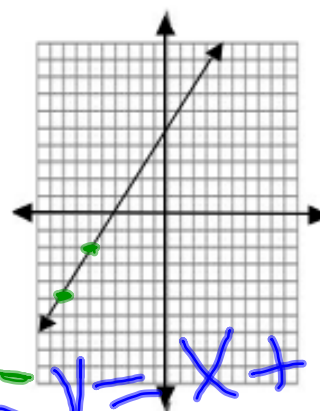
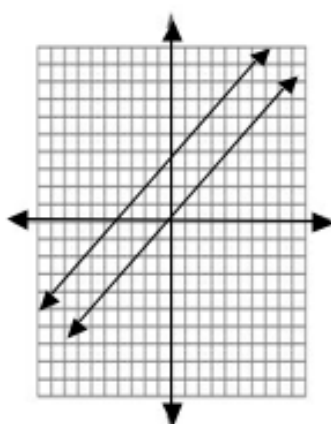
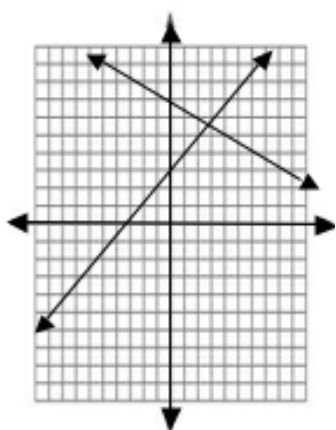


1.5

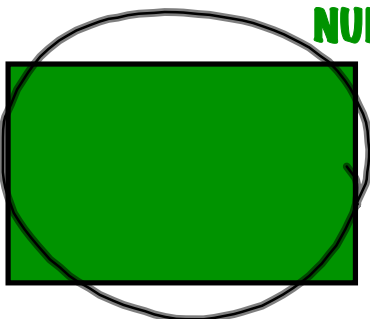


## Number of solutions of a linear system



$$\begin{aligned} y &= x + b \\ 2y &= 2x + 12 \end{aligned}$$

WHAT DO YOU KNOW ABOUT THE SLOPES AND  
NUMBER OF SOLUTIONS IN EACH GRAPH?



Use substitution or linear combinations to solve each system. Tell how many solutions the system has.

$$\begin{array}{rcl} 1. & -6x + 2y = -8 & \\ 2. & -3x + y = 7 & \end{array} \quad \begin{array}{r} -6x + 2y = -8 \\ + \quad +6x + 2y = 14 \\ \hline 0 = -22 \end{array}$$



NO Solution!

$$\begin{array}{l} 2(-x + 2y = -2) \\ 3x - 6y = 6 \end{array}$$



$$\begin{array}{r} -3x + 6y = -6 \\ +3x - 6y = 6 \\ \hline \end{array}$$

$$0 = 0$$

Many solutions!

$$3. \begin{aligned} 3x - y &= 3 \\ 3(-x + y) &= 3 \end{aligned}$$



$$\begin{array}{r} 3x - y = 3 \\ + \cancel{-3x} + 3y = 9 \\ \hline 2y = 12 \\ \frac{2y}{2} = \frac{12}{2} \\ y = 6 \end{array}$$